WHAT IS CLAIMED IS:

1. A human immunodeficiency virus antigenic composition comprising a human immunodeficiency virus envelope glycoprotein 160 having a gp120 subunit and a gp41 subunit wherein the carboxy-terminal end of gp120 is covalently linked through a peptide linker of at least 5 amino acids, to the amino-terminal end of gp41.

2. The antigenic composition of claim 1, wherein the human immunodeficiency virus envelope glycoprotein 160 is truncated at a position within 5 amino acids either side of amino acid 683 in SEQ ID NO:2.

3. The antigenic composition of claim 1, wherein the peptide linker is between 15 and 26 amino acids in length.

4. The antigenic composition of claim 1, wherein the peptide linker is selected from the group consisting of SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14.

5. The antigenic composition of claim 1, wherein the human immunodeficiency virus envelope glycoprotein 160 has at least 70% amino acid sequence identity to sequence SEQ ID NO:2.

6. The antigenic composition of claim 1, wherein the human immunodeficiency virus envelope glycoprotein 160 is SEQ ID NO:7.

7. The antigenic composition of claim 2, wherein the human immunodeficiency virus envelope glycoprotein has at least 70% amino acid sequence identity to sequence SEQ ID NO:4.

8. The antigenic composition of claim 2, wherein the human immunodeficiency virus envelope glycoprotein is SEQ ID NO:8.

9. The antigenic composition of claim 1, wherein the gp120 subunit and the gp41 subunit are from different human immunodeficiency virus strains.

10. The antigenic composition of claim 1, wherein the gp120 subunit and the gp41 subunit are from the same human immunodeficiency virus strain.

11. A method of manufacturing a human immunodeficiency virus antigenic composition comprising a human immunodeficiency virus envelope glycoprotein 160 having a gp120 subunit and a gp41 subunit wherein the carboxy-terminal subunit of gp120 is covalently linked through a peptide linker of at least 5 amino acids to the amino terminal end of gp41, the method comprising:

(i) obtaining a nucleic acid encoding a gp 120 and a gp 41.

(ii) introducing in frame between the gp120 and the gp41 coding segments a nucleic acid that encodes a peptide linker of between 6 and 29 amino acids, to yield a gene encoding a human immunodeficiency virus antigenic composition;

(iii) operably linking the gene to a expression cassette;

(iv) incorporating the expression cassette into a mammalian host cell;

(v) permitting the host to express the human immunodeficiency virus antigenic composition; and

(vi) isolating the composition from the host cell.

12. The method of claim 11, wherein the human immunodeficiency virus envelope glycoprotein 160 is truncated at a position within 5 amino acids either side of amino acid 683 in SEQ ID NO:2.

13. The method of claim 11, wherein the peptide linker is between 15 and 26 amino acids in length.

14. The method of claim 11, wherein the peptide linker is selected from the group consisting of SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14.

15. The method of claim 11, wherein the human immunodeficiency virus envelope glycoprotein 160 has at least 70% amino acid sequence identity to sequence SEQ ID NO:2.

16. The antigenic composition of claim 1, wherein the human immunodeficiency virus envelope glycoprotein 160 is SEQ ID NO:7.

17. The method of claim 12, wherein the human immunodeficiency virus envelope glycoprotein has at least 70% amino acid sequence identity to sequence SEQ ID NO:4.

18. The method of claim 12, wherein the human immunodeficiency virus envelope glycoprotein is SEQ ID NO:8.

19. The method of claim 11, wherein the gp120 subunit and the gp41 subunit are from different human immunodeficiency virus strains.

20. The method of claim 11, wherein the gp120 subunit and the gp41 subunit are from the same human immunodeficiency virus strain.

21. A vaccine for protecting a human from human immunodeficiency virus infection comprising:

(i) an aliquot amount of a human immunodeficiency virus antigenic composition comprising a human immunodeficiency virus envelope glycoprotein 160 having a gp120 subunit and a gp41 subunit wherein the carboxy-terminal end of gp120 is covalently linked through a peptide linker of at least 5 amino acids to the amino-terminal end of gp41; and

(ii) a sterile pharmaceutically acceptable carrier.

22. The vaccine of claim 21, wherein the human immunodeficiency virus envelope glycoprotein 160 is truncated at a position within 5 amino acids either side of amino acid 683 in SEQ ID NO:2.

23. The vaccine of claim 21, wherein the peptide linker is between 15 and 26 amino acids in length.

24. The vaccine of claim 21, wherein the peptide linker is c selected from the group consisting of SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14.

25. The vaccine of claim 21, wherein the human immunodeficiency virus envelope glycoprotein 160 has at least 70% amino acid sequence identity to sequence SEQ ID NO:2.

26. The vaccine of claim 21, wherein the human immunodeficiency virus envelope glycoprotein 160 is SEQ ID NO:7.

27. The vaccine of claim 22, wherein the human immunodeficiency virus envelope glycoprotein 160 has at least 70% amino acid sequence identity to sequence SEQ ID NO:4.

28. The vaccine of claim 22, wherein the human immunodeficiency virus envelope glycoprotein is SEQ ID NO:8.

29. The vaccine of claim 21, wherein the gp120 subunit and the gp41 subunit are from different human immunodeficiency virus strains.

30. The vaccine of claim 21, wherein the gp120 subunit and the gp41 subunit are from the same human immunodeficiency virus strain.

31. The vaccine of claim 21, wherein the aliquot amount of human immunodeficiency virus antigenic composition is between 0.5 and 1 milligrams antigenic composition per milliliter of sterile pharmaceutically acceptable carrier.

32. The vaccine of claim 21, wherein the aliquot amount of human immunodeficiency virus antigenic composition is in a lyophilized state.

33. A method of protecting a human from human immunodeficiency virus infection comprising:

administering to a human an amount of a human immunodeficiency virus antigenic composition comprising a human immunodeficiency virus envelope glycoprotein 160 having a gp120 subunit and a gp41 subunit, wherein the carboxy-terminal end of gp120 is covalently linked through a peptide linker of at least 5 amino acids to the amino-terminal end of gp41, wherein the amount administered is effective to immunize the human against human immunodeficiency virus infection.

34. The method of claim 33, wherein the human immunodeficiency virus envelope glycoprotein 160 is truncated at a position within 5 amino acids either side of amino acid 683 in SEQ ID NO:2.

35. The method of claim 33, wherein the peptide linker is between 15 and 26 amino acids in length.

36. The method of claim 33, wherein the peptide linker is selected from the group consisting of SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14.

37. The method of claim 33, wherein the human immunodeficiency virus envelope glycoprotein 160 has at least 70% amino acid sequence identity to sequence SEQ ID NO:2.

38. The method of claim 33, wherein the human immunodeficiency virus envelope glycoprotein 160 is SEQ ID NO:7.

39. The method of claim 34, wherein the human immunodeficiency virus envelope glycoprotein has at least 70% amino acid sequence identity to sequence SEQ ID NO:4.

40. The method of claim 34, wherein the human immunodeficiency virus envelope glycoprotein is SEQ ID NO:8.

41. The method of claim 33, wherein the gp120 subunit and the gp41 subunit are from different human immunodeficiency virus strains.

42. The method of claim 33, wherein the gp120 subunit and the gp41 subunit are from the same human immunodeficiency virus strain.

43. The method of claim 33, wherein the amount administered effective to immunize the human against human immunodeficiency virus infection is between 1μg/kg and 20μg/kg per dose per innoculation.

44. The method of claim 33, wherein the human immunodeficiency virus antigenic composition further comprises one or more glycoprotein 160 ligands chosen from the group consisting of CD4, CCR5 and CXCR4.

45. The method of claim 44, wherein the molar ration of glycoprotein 160 to ligand is between 3:1 and 1:3 for each ligand species of the composition.

46. An nucleic acid comprising a coding sequence for a human immunodeficiency virus envelope glycoprotein 160 having a gp120 subunit and a gp41 subunit wherein the carboxy-terminal end of gp120 is covalently linked through a peptide linker of at least 5 amino acids to the amino-terminal end of gp41.

47. A live recombinant vaccine comprising an nucleic acid comprising a coding sequence for a human immunodeficiency virus envelope glycoprotein 160 having a gp120 subunit and a gp41 subunit wherein the carboxy-terminal end of gp120 is covalently linked through a peptide linker of at least 5 amino acids to the amino-terminal end of gp41.

48. The nucleic acid of claim 46, further comprising regulatory sequences for the expression of DNA in eukaryotic cells operably linked to the human immunodeficiency virus envelope glycoprotein 160 sequence.

49. The live recombinant vaccine of claim 47, further comprising regulatory sequences for the expression of DNA in eukaryotic cells operably linked to the human immunodeficiency virus envelope glycoprotein 160 sequence.

50. The antigenic composition of claim 1, wherein the human immunodeficiency virus envelope glycoprotein 160 comprises the extracellular subunits of envelope glycoprotein 160.

51. The vaccine of claim 21, wherein the human immunodeficiency virus envelope glycoprotein 160 comprises the extracellular subunits of envelope glycoprotein 160.

52. The method of claim 33, wherein the human immunodeficiency virus envelope glycoprotein 160 comprises the extracellular subunits of envelope glycoprotein 160.

53. The nucleic acid of claim 46, wherein the human immunodeficiency virus envelope glycoprotein 160 comprises the extracellular subunits of envelope glycoprotein 160.

54. The live recombinant vaccine of claim 47, wherein the human immunodeficiency virus envelope glycoprotein 160 comprises the extracellular subunits of envelope glycoprotein 160.

55. The human immunodeficiency virus antigenic composition of claim 1, wherein the peptide linker is of 6 to 29 amino acids.

56. The method of claim 11, wherein the peptide linker is of 6 to 29 amino acids.

57. The method of claim 33, wherein the peptide linker is of 6 to 29 amino acids.

58. The nucleic acid of claim 46, wherein the peptide linker is of 6 to 29 amino acids.

59. The live recombinant vaccine of claim 47, wherein the peptide linker is of 6 to 29 amino acids.

60. The nucleic acid of claim 46, wherein the human immunodeficiency virus envelope glycoprotein 160 sequence is SEQ ID NO:7 or SEQ ID NO:8.

61. The live recombinant vaccine of claim 47, wherein the human immunodeficiency virus envelope glycoprotein 160 sequence is SEQ ID NO:7 or SEQ ID NO:8.

62. The nucleic acid of claim 46, further comprising a nucleic acid encoding one or more glycoprotein 160 ligands chosen from the group consisting of CD4, CCR5 and CXCR4.

63. The live recombinant vaccine of claim 47, further comprising one or more glycoprotein 160 ligands chosen from the group consisting of CD4, CCR5 and CXCR4.

64. The vaccine of claim 21, further comprising (iii) one or more glycoprotein 160 ligands chosen from the group consisting of CD4, CCR5 and CXCR4.

65. The method of claim 33, whenrein the antigenic composition further comprises one or more glycoprotein 160 ligands chosen from the group consisting of CD4, CCR5 and CXCR4.

66. The method of claim 11, wherein the gp41 subunit is an extracellular subunit(s) of gp41.

67. The nucleic acid of claim 46, wherein the peptide linker is between 15 and 26 amino acids in length.

68. The nucleic acid of claim 46, wherein the peptide linker is selected from the group consisting of SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14.

69. The nucleic acid of claim 46, wherein the human immunodeficiency virus envelope glycoprotein 160 has at least 70% amino acid sequence identity to sequence SEQ ID NO:2.

70. The nucleic acid of claim 46, wherein the human immunodeficiency virus envelope glycoprotein 160 is SEQ ID NO:7.

71. The nucleic acid of claim 46, wherein the human immunodeficiency virus envelope glycoprotein has at least 70% amino acid sequence identity to sequence SEQ ID NO:4.

72. The nucleic acid of claim 46, wherein the human immunodeficiency virus envelope glycoprotein is SEQ ID NO:8.

73. The nucleic acid of claim 46, wherein the gp120 subunit and the gp41 subunit are from different human immunodeficiency virus strains.

74. The nucleic acid of claim 46, wherein the gp120 subunit and the gp41 subunit are from the same human immunodeficiency virus strain.

75. The live recombinant vaccine of claim 47, wherein the peptide linker is between 15 and 26 amino acids in length.

76. The live recombinant vaccine of claim 47, wherein the gp120 subunit and the gp41 subunit are from the same human immunodeficiency virus strain.

77. The live recombinant vaccine of claim 47, wherein the peptide linker is selected from the group consisting of SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, SEQ ID NO:14.

78. The live recombinant vaccine of claim 47, wherein the human immunodeficiency virus envelope glycoprotein 160 has at least 70% amino acid sequence identity to sequence SEQ ID NO:2.

79. The live recombinant vaccine of claim 47, wherein the human immunodeficiency virus envelope glycoprotein 160 is SEQ ID NO:7.

80. The live recombinant vaccine of claim 47, wherein the human immunodeficiency virus envelope glycoprotein has at least 70% amino acid sequence identity to sequence SEQ ID NO:4.

81. The live recombinant vaccine of claim 47, wherein the human immunodeficiency virus envelope glycoprotein is SEQ ID NO:8.

82. The live recombinant vaccine of claim 47, wherein the gp120 subunit and the gp41 subunit are from different human immunodeficiency virus strains.

83. The nucleic acid of claim 62, wherein the molar ration of glycoprotein 160 to ligand is between 3:1 and 1:3 for each ligand species of the composition.

84. The live recombinant vaccine of claim 63, wherein the molar ration of glycoprotein 160 to ligand is between 3:1 and 1:3 for each ligand species of the composition.